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## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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 Complete if Known

 Application Number
 09/616,385

 Filing Date
 07/14/2000

 First Named Inventor
 Enric Musoll

 Art Unit
 2183

 Examiner Name
 Eric Coleman

 Attorney Docket Number
 P3809

			U. S. PATENT	DOCUMENTS	
Examiner Initials*	Cite No.1	Document Number  Number-Kind Code <sup>2 (# known)</sup>	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
€C		<sup>US-</sup> 5600837 A *	02-04-1997	Artieri, Alain	
E.C.		<sup>US-</sup> 5461722 A *	10-24-1995	Goto, Tatuhiro	
EC-		<sup>US-</sup> 5542088 A *	07-30-1996	Jennings, Jr. et al.	•
E.C.		<sup>US-</sup> 5748468 A *	05-05-1998	Notenboom et al.	
&C.		<sup>US-</sup> 5745778 A *	04-28-1998	Alfieri, Robert	RECEIVED
દહ		<sup>US-</sup> 5867725 A *	02-02-1999	Fung et al.	- 2004
E.C.		<sup>US-</sup> 5309173 A *	05-03-1994	Izzi et al.	APR 1 9 2004
E.C.		<sup>US-</sup> 5852726 A *	12-22-1998	Lin et al.	0
EC		<sup>US-</sup> 5713038 A *	01-27-1998	Motomura, Masato	Technology Center 21
E.C.		<sup>US-</sup> 5812811 A *	09-22-1998	Dubey et al.	
EC-		<sup>US-</sup> 5860017 A *	01-12-1999	Sharangpani et al.	
€ C-		<sup>US-</sup> 5784613 A *	07-21-1998	Tamirsa	
Ê(^		<sup>US-</sup> 5511210 A *	04-23-1996	Nishikawa et al.	
FC.		<sup>US-</sup> 6119203 A *	09-12-2000	Snyder et al.	
EC-		US- 5649144 A *	07-15-1997	Gostin et al.	
		US-			

FOREIGN PATENT DOCUMENTS								
	Cite No.1	Foreign Patent Document	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages			
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Attorney Docket Number	P3809			

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		Number-Kind Code <sup>2 (d known)</sup> US-			1.32.007,750.00
E.C	1	<sup>US-</sup> 4200927 A *	04-29-1998	Hughes et al.	
&C		<sup>US-</sup> 5933627 A *	08-03-1999	Parady, Bodo	
ec,	,	<sup>US-</sup> 5758142 A *	05-26-1998	McFarling et al.	
Ec.		<sup>US-</sup> 6016542 A *	01-18-2000	Gottlieb et al.	
E0		<sup>US-</sup> 5361337 A *	11-01-1994	Okin, Kenneth	050/55
E.C.		<sup>US-</sup> 6308261 B1 *	10-23-2001	Morris et al.	RECEIVED
EC,		<sup>US-</sup> 5946711 A *	08-31-1999	Donnelly, Stephen	
EC.		<sup>US-</sup> 5815733 A *	09-29-1998	Anderson et al.	APR 1 9 2004
EC		<sup>US-</sup> 5987492 A *	11-16-1999	Yue, Kelvin	
Ç.C.		<sup>US-</sup> 6018759 A *	01-25-2000	Doing et al.	Technology Center 21
E.C.		<sup>US-</sup> 6052708 A *	04-18-2000	Flynn et al.	-
EC.		<sup>US-</sup> 6212544 B1 *	04-03-2001	Borkenhagen et al.	
EC.		<sup>US-</sup> 5546593 A *	08-13-1996	Kimura et al.	
€.C.		US- 5913049 A *	06-15-1999	Shiell et al.	
8-6-	1	<sup>US-</sup> 6115802 *	09-2000	Tock et al.	
E.c		<sup>US-</sup> 5535365 *	07-1996	Barriuso et al.	
EC		<sup>US-</sup> 5701432 *	12-1997	Wong et al.	
&C		<sup>US-</sup> 6487571 *	11-2002	Voldman, Jean	

	FOREIGN PATENT DOCUMENTS								
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Attorney Docket Number	P3809	Technology Center 2100

NON PATENT LITERATURE DOCUMENTS Examiner Cite Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of No.1 Initials\* the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. FISKE et al., "Thread Prioritization: A Thread Scheduling Mechanism for Multiple-Context Parallel Processors", 1995, pp 210 -221, IEEE YAMAMOTO, Wayne, "An Analysis of Multistreamed, Superscalar Processor Architectures", University of California Santa Barbara dissertation, December 1995, Santa Barbara, US STEERE et al., "A Feedback - Driven Proportion Allocator for Real-Rate Scheduling", Third Symposium on Operating Systems Design and Implementation, February 1999, pp 145-158, USENIX Association YAMAMOTO et al., "Increasing Superscalar Performance Through Multistreaming", 1995 TULLSEN et al., "Simultaneous Multithreading: Maximizing on-Chip Parallelism", 22nd Annual International Symposium on Computer Architecture, June 1995, Santa Margherita Ligure, Italy. YOAZ et al., "Speculation Techniques for Improving Load Related Instruction Scheduling", 1999, pp 42-53, IEEE KESSLER, R.E., "The Alpha 21264 Microprocessor: Out-of-Order Execution at 600 Mhz", August 1998 TULLSEN, DEAN et al., Supporting Fine-Grained Synchronization on a Simultaneous Multithreading Processor, UCSD CSE Technical Report CS98-587, June 1998, all-pages, US NEMIROVSKY et al., "Quantitative Study of Data Caches on a Multistreamed Architecture", Workshop on Mutlithreaded Execution Architecture and Compilation, January 1998 LI et al., "Design and Implementation of a Multiple-Instruction-Stream Multiple-Execution-Pipeline Architecture", 7th International Conference on Parallel and Distributed Computing and Systems, October 1995 Washington D.C.

Examiner Signature	Ei al	Date Considered	6/27/04

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Examiner Name	Eric Coleman	Technology Center 21	00
Attorney Docket Number	P3809	100	

	T 0::	NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		* The PowerPC Architecture: A Specification for a New Family of RISC Processors, Second Edition, May 4994, pp 70-72, Morgan-Kaufmann, San Francisco	
		* MC68020 32-Bit Microprocessor User's Manual, Third Edition, 1989, pp 3- 125, 3-126, and 3-127, Prentice Hall, New Jersey	7
		* POTEL, M.J., Real-Time Playback in Animation Systems, Proceedings of the 4th Annual Cenference on Computer Graphics and Interactive Techniques, 1977, pp. 72-77, San Jose, CA	/
		* ARM Architecture Reference Manual, 1996, pp. 3-41, 3-42, 3-43, 3-67, 3-68, Prentice Hall	
		* ESA/390 Principles of Operation, IBM Library Server, 1993 , Table of Contents and Para. 7.5.31 and 7.5.70 (available at : http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/BOOK/DZ9AR001/CCONTENTS)	_
		* MC88110 Second Generation RISC Microprocessor User's Manual, 1991, pp. 10-66, 10-67 and 10-71, Motorola, Inc.	
<u> </u>		* DIEFENDORFF, KEITH et al., Organization of the Motorola 88110 Superscalar RISC Microprocessor, IEEE Micro, April 1992, pp.40-63, Vol. 12, No. 2	_
		* KANE, GERRY, PA-RISC 2.0 Architecture, 1996, pp 7-106 and 7-107, Prentice Hall, New Jersey	
		* DIEFENDORFF, KEITH et al., AltiVec Extension to PowerPC Accelerates Media Processing, March - April 2000, pp. 85-95, IEEE Micro, Vol. 20, No. 2	
		* PAI, VIJAY et al., An Evaluation of Memory Consistency Models for Shared-Memory Systems with ILP Processors, Proceedings of ASPLOS VII, October 1896, pp. 12-23, ACM, Inc.,	

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INFO	DRMATION	N DIS	CLOSURE	Filing Date	07/14/2000	RECEIVED		
STA	STATEMENT BY APPLICANT			First Named Inventor	Enric Musoll	APR 1 9 2004		
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	(USB as many sn	eeus as n	ecessary)	Examiner Name	Eric Coleman	Technology Center 210		
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		* DONALSON ET AL., "DISC: Dynamic Instruction Stream Computer, An Evaluation of Performance", 26th Hawaii Conference on Systems Sciences, 1993, pp 448-456, vol. 1	
		enormance , zour nawaii conference on dysteins colonices, 1550, pp 445 455, voi.	
		* NEMIROVSKY ET AL., DISC: Dynamic Instruction Stream Computer.  ACM, 1991, pp 163-171	
•		* YAMAMOTO ET AL., Performance Estimation of Multistreamed,	
		Superscalar Processors, IEEE. 1994, pp 195-204, Hawaii, US	
		* GRUNEWALD, WINFRIED et al., Towards Extremely Fast Context Switching in a Block-Multithreaded Processor, Proceedings of EUROMICRO-22, 1996, pp. 592-599	
		* BRADFORD, JEFFREY et al., Efficient Synchronization for Multithreaded Processors, Workshop on Multithreaded Execution, Architecture and Compliation, January-February 1998, pp. 1-4	
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